

CLAIMS

What is claimed is:

1. An isolated polypeptide comprising at least about 8 contiguous amino acids of the  
5 sequence set forth in amino acids 1-80 or amino acids 189-350 of SEQ ID NO:2.
2. The isolated polypeptide of claim 1, wherein said polypeptide has an amino acid  
sequence at least about 70% identical to the amino acid sequence depicted in SEQ ID NO:2
- 10 3. The isolated polypeptide of claim 1, wherein said polypeptide has the amino acid  
sequence depicted in SEQ ID NO:2.
4. A composition comprising the polypeptide of claim 1, and a buffer.
- 15 5. An isolated antibody specific for a VSHK-1 receptor polypeptide.
6. An isolated polynucleotide comprising nucleotide sequences which encode a  
polypeptide comprising at least about 8 contiguous amino acids of the sequence depicted in 1-80  
or amino acids 189-350 SEQ ID NO:2  
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7. The isolated polynucleotide of claim 6, wherein said polynucleotide encodes a  
polypeptide comprising the sequence depicted in SEQ ID NO:2.
8. An isolated polynucleotide comprising a nucleotide sequence which has at least  
25 about 70% nucleotide sequence identity to nucleotides 1-324 or nucleotides 652-1890 of the  
sequence set forth in SEQ ID NO:1
9. The isolated polynucleotide of claim 8, wherein said polynucleotide hybridizes,  
under stringent conditions, with the polynucleotide sequence depicted in SEQ ID NO:1

10. An isolated polynucleotide comprising at least about 18 contiguous nucleotides of nucleotides 1-324 or 652-1890 of the sequence set forth in SEQ ID NO:1

11. The isolated polynucleotide of claim 8, wherein said polynucleotide comprises the nucleotide sequence depicted in SEQ ID NO:1

12. A recombinant vector comprising the polynucleotide of claim 8.

13. An isolated host cell comprising the polynucleotide of claim 12.

14. A method of detecting a VSHK-1 receptor polypeptide in a sample, comprising:  
a) contacting the sample with an antibody which specifically binds the VSHK-1 receptor polypeptide; and  
b) detecting binding between the antibody and molecules of the sample.

15. The method of claim 14, wherein said antibody is detectably labeled.

16. A method of detecting the presence of a VSHK-1 messenger RNA (mRNA) molecule in a biological sample, comprising:  
a) contacting the sample with a VSHK-1 polynucleotide complementary to VSHK-1 mRNA under conditions which allow hybridization; and  
b) detecting hybridization, if any.

17. A method of identifying a protein that binds to a VSHK-1 receptor polypeptide comprising:  
(a) contacting said a test substance with a VSHK-1 receptor polypeptide under conditions that permit formation of a protein-protein complex; and  
(b) detecting the presence of said complex.

18. A method of identifying a VSHK-1 receptor ligand, comprising:

- (a) contacting a test substance with a VSHK-1 receptor polypeptide under conditions that permit formation of a ligand/receptor complex; and
- (b) measuring a signal transduction activity of any complex formed.

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19. A method of identifying a substance which modulates a signal transduction activity of a VSHK-1, comprising:

- a) contacting the substance with a sample containing a VSHK-1 receptor polypeptide; and
  - b) assaying a signal transduction activity of the VSHK-1 receptor polypeptide in the
- 10 presence of the substance, wherein an increase or a decrease in signal transduction activity in comparison to VSHK-1 signal transduction activity in a suitable control is an indication that the substance modulates a signal transduction activity of the VSHK-1.

20. The method of claim 18, wherein said signal transduction activity is measured in
- 15 an intact cell by a measuring an intracellular level of a compound selected from the group consisting of inositol 1,4,5-triphosphate, diacylglycerol, and  $\text{Ca}^{2+}$ .